

V.A.5.N.E. SHORT SOD TEMPERATE OR SUBPOLAR GRASSLAND

V.A.5.N.e.14. PLEURAPHIS JAMESII HERBACEOUS ALLIANCE

James' Galleta Herbaceous Alliance

Alliance Identifier: A.1287

***Pleuraphis jamesii* Herbaceous Vegetation**

James' Galleta Herbaceous Vegetation

ELEMENT CONCEPT

GLOBAL SUMMARY: This widespread grassland association is found on alluvial flats, plateau parks and plains in the Colorado Plateau and elsewhere in the southwestern U.S. Topography varies from mesa tops, slopes, and basin floors. Stands may be small woodland parks or more extensive grasslands on the plains. Soils in bottomland stands tend to be fine-textured; however, stands also occur on sandy loams. Vegetation is characterized by a relatively sparse to moderately dense (10-60% cover) herbaceous layer that is strongly dominated by the warm-season bunchgrass *Pleuraphis jamesii*. Low cover of other grasses, such as *Achnatherum hymenoides*, *Bouteloua eriopoda*, *Bouteloua gracilis*, *Hesperostipa comata*, *Muhlenbergia porteri*, *Sporobolus airoides*, or *Sporobolus cryptandrus*, may be present. Forb cover is usually sparse and includes species of *Plantago*, *Gilia*, *Lappula*, and prickly pear cacti (*Opuntia*). Many species of shrubs and dwarf-shrubs may be present; however, they are not dense enough to form a shrub layer. Some stands have high cover of cryptogams on the soil.

ENVIRONMENTAL DESCRIPTION

USFWS WETLAND SYSTEM: TERRESTRIAL

Ouray National Wildlife Refuge Environment: *Pleuraphis jamesii* Herbaceous Vegetation has become established on gravel, silty clay, and sandy loam soils within the Refuge. As the soils become deeper and more structured, *Pleuraphis jamesii* increases in foliar cover. Slopes within the galleta type vary from nearly flat to moderately steep (1-20%) and are found on all aspects. Sites with *Pleuraphis jamesii* Herbaceous Vegetation are subject to wind and water erosion. Wildlife use includes many ant hills and burrowing small mammals; it is in this type that numerous prairie dog burrows/towns are located.

Global Environment: This widespread grassland association is found on alluvial flats, plateau parks and plains in the Colorado Plateau and elsewhere in the southwestern U.S. Elevation ranges from 1220-1660 m. Topography varies from mesa tops, slopes, and basin floors. Stands may be small woodland parks or more extensive on the plains. Soils in bottomland stands tend to be fine-textured; however, stands also occur on sandy loams.

VEGETATION DESCRIPTION

Ouray National Wildlife Refuge Vegetation: *Pleuraphis jamesii* Herbaceous Vegetation is the most widespread, but variable grassland type in the Refuge. On gravel and shallow soils, galleta foliar cover ranges from 10-20%, while on deeper soils foliar cover for galleta may exceed 30%. The range of foliar cover for the type is 10-40%. Commonly associated species include *Hesperostipa comata*, *Achnatherum hymenoides*, *Aristida purpurea*, *Bromus tectorum*, and *Salsola kali* in the herbaceous layer. Dwarf shrubs also observed include *Gutierrezia sarothrae*, *Opuntia polyacantha*, *Tetradymia spinosa*, and *Atriplex confertifolia*, but they are rarely over 5% foliar cover in a stand. A number of prairie dog towns were observed in this grassland type, occupying areas with deeper soils. Prairie dogs may alter the plant association of a site and their activity will be mapped on the final project vegetation map, either as sparse burrow density on grassland vegetation or as a separate map unit.

Global Vegetation: This association is characterized by a relatively sparse to moderately dense herbaceous layer (10-60% cover) that is strongly dominated by the warm-season bunchgrass *Pleuraphis jamesii*. Low cover of other grasses such as *Achnatherum hymenoides*, *Bouteloua eriopoda*, *Bouteloua gracilis*, *Hesperostipa comata*, *Muhlenbergia porteri*, *Sporobolus airoides*, or *Sporobolus cryptandrus* may be present. Forb cover is usually sparse and includes species of *Plantago*, *Gilia*, *Lappula*, and prickly pear cacti (*Opuntia*). Many species of shrubs and dwarf-shrubs may be present, but they are not abundant enough to form a shrub layer. Woody species may include *Artemisia filifolia*, *Atriplex canescens*, *Atriplex confertifolia*, *Ephedra torreyana*, *Ericameria nauseosa*, *Gutierrezia* spp., *Tetradymia* spp., and occasional *Juniperus monosperma* trees. The widespread introduced annual grass *Bromus tectorum* and several other exotic species like *Salsola kali*, *Kochia scoparia*, *Sisymbrium altissimum* may be present to abundant, especially on disturbed sites. Some stands have high cover of cryptogams on the soil including *Collema tenax*, *Tortula ruralis*, *Bellia papillata*, and *Fulgensia bracteata*.

Ouray National Wildlife Refuge Vegetation Mapping Project

Dynamics: *Pleuraphis jamesii* is both drought- and grazing-resistant (USFS 1937, Weaver and Albertson 1956, West et al. 1972). This grass is favored in mixedgrass stands because it is only moderately palatable to livestock; however, it decreases when heavily grazed during drought and in the more arid portions of its range where it is the dominant grass (West et al. 1972). This grass reproduces extensively from scaly rhizomes. These rhizomes make the plant resistant to trampling by livestock and have good soil binding properties (USFS 1937, Weaver and Albertson 1956, West et al. 1972).

MOST ABUNDANT SPECIES

Ouray National Wildlife Refuge

Stratum	Species
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DWARF SHRUB	<i>Gutierrezia sarothrae</i> , <i>Opuntia polyacantha</i> , <i>Atriplex confertifolia</i>
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GRAMINOID	<i>Pleuraphis jamesii</i> , <i>Bromus tectorum</i> , <i>Hesperostipa comata</i> , <i>Achnatherum hymenoides</i>
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Global

Stratum	Species
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GRAMINOID	<i>Pleuraphis jamesii</i>
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CHARACTERISTIC SPECIES

Ouray National Wildlife Refuge

Species

<i>Pleuraphis jamesii</i> , <i>Hesperostipa comata</i> , <i>Gutierrezia sarothrae</i> , <i>Opuntia polyacantha</i>
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Global

Species

<i>Pleuraphis jamesii</i>

OTHER NOTEWORTHY SPECIES

Ouray National Wildlife Refuge

Stratum	Species
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N/A	
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Global

Stratum	Species
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N/A	
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GLOBAL SIMILAR ASSOCIATIONS:

Atriplex canescens / *Pleuraphis jamesii* Shrubland (CEGL001288)

Atriplex confertifolia / *Pleuraphis jamesii* Shrubland (CEGL001304)

Krascheninnikovia lanata / *Pleuraphis jamesii* Dwarf-shrubland (CEGL001322)

Coleogyne ramosissima / *Pleuraphis jamesii* Shrubland (CEGL001334)

Artemisia nova / *Pleuraphis jamesii* Dwarf-shrubland (CEGL001420)

Atriplex gardneri / *Pleuraphis jamesii* Dwarf-shrubland (CEGL001441)

Bouteloua eriopoda - *Pleuraphis jamesii* Herbaceous Vegetation (CEGL001751)

Bouteloua gracilis - *Pleuraphis jamesii* Herbaceous Vegetation (CEGL001759)

Atriplex obovata / *Pleuraphis jamesii* - *Sporobolus airoides* Dwarf-shrub Herbaceous Vegetation (CEGL001775)

Gutierrezia sarothrae / *Sporobolus airoides* - *Pleuraphis jamesii* Shrub Herbaceous Vegetation (CEGL001776)

Pleuraphis jamesii - *Sporobolus airoides* Herbaceous Vegetation (CEGL001778)

SYNONYMY:

Pure *Pleuraphis jamesii* (Cannon 1960) . reported from northwestern New Mexico.

Hilaria jamesii cover type (Collins 1984) . reported from northwestern New Mexico.

Hilaria jamesii Habitat Type (Francis and Aldon 1983) . needs review - may be a mixed type.

Ouray National Wildlife Refuge Vegetation Mapping Project

Hilaria jamesii Series (Francis 1986) B. need review; no "Pure" *Pleuraphis jamesii* community type was described.
Hilaria jamesii dominated stands (Kleiner and Harper 1977) . need review; no "Pure" *Pleuraphis jamesii* community.

CLASSIFICATION COMMENTS

Ouray National Wildlife Refuge: N/A

Global Comments: This association is defined by the dominance of *Pleuraphis jamesii* in the graminoid layer without codominance of other grass species or the presence of a shrub layer.

ELEMENT DISTRIBUTION

Ouray National Wildlife Refuge Range: *Pleuraphis jamesii* Herbaceous Vegetation is generally distributed across the Refuge, above the Green River floodplain, on a variety of soils, slopes, and aspects.

Global Range: This widespread grassland association is found on alluvial flats, plateau parks and plains in the Colorado Plateau and elsewhere in the southwestern U.S.

Nations: US

States/Provinces: AZ CA CO NV UT

TNC Ecoregions: 10:C, 11:C, 17:C, 19:C

USFS Ecoregions: 313A:CC, 341B:CC, 341C:CC, 341D:CC, 341E:CC

Federal Lands: NPS (Canyonlands, Wapatki, Zion); USFWS (Ouray)

ELEMENT SOURCES

Identifier: CEG001777 **Confidence:** 2 **Conservation Rank:** G2G4

REFERENCES: Cannon 1960, Collins 1984, Francis 1986, Francis and Aldon 1983, Helm 1981, Kleiner 1968, Kleiner 1983, Kleiner and Harper 1972, Kleiner and Harper 1977, Marr et al. 1973a, Nichol 1937, Stewart et al. 1940, Thompson 2001, USFS 1937, Utah Environmental and Agricultural Consultants 1973, Von Loh 2000, Weaver and Albertson 1956, West et al. 1972, Von Loh 2000